REMARKS

Applicants respectfully traverse the rejection of the pending claims. In that regard, Applicants note that the disk features in prior art disks are "filled in" by their protective coating. For example, consider Figures 4A through 4E of the Obata reference (USP 6,839,900). As known in the art, the Obata substrate is stamped with features as seen in Figure 4B. Figure 4C illustrates how the stamped features are covered with a recording layer. But note that these features are then filled in by a protective film in Figure 4D such that the top surface of the protective film is planar.

Applicants' disk is strikingly different in that the features are not filled in. Instead, as shown in Applicants' Figure 4, the upper surface of the finished disk still plainly defines the features. Thus, as set forth on page 17, lines 4-9, finished lands have a typical height of 85 nm, which "includes the molded feature, the phase-change material, and the protective layer." Claim 1 reflects this texture by reciting a "dielectric layer sputtered over the phase-change material; the first surface disk having no additional layers overlaying the dielectric layer, wherein a combined thickness of the phase change material and the dielectric layer is such that the dielectric layer defines coated bumps having a first height with regard to ~~and~~ coated planar regions in the first portion, and coated lands having a second height with regard to ~~and~~ coated grooves in the second portion, and wherein a data density of the first portion is less than a data density of the second portion."

The feature-retained upper surface of Applicants disk arises from its "first surface" nature as opposed to conventional "second surface" disks. For example, consider the substrate surface "100" in Obata's Figures 4D and 4E. The laser light passes through the substrate from this direction and then impinges on the recording film. Thus,

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the recording film is on the second surface of the substrate illuminated by the laser beam. Applicants' disk is not engineered to be read from the "backside" in this fashion. Instead, laser light would be incident from above layer 212 in Applicants' Figure 4. Thus, the recording layer is on the first surface of the substrate illuminated by the laser beam.

That is only one patentable feature being recited in claim 1: another patentable feature is that the spiral track and the bumps are covered by the same phase-change layer. With regard to the citation of Zaharris, Applicants note that the Zaharris reference is a commonly-assigned 102(e) reference such that it is not available for citation under 35 USC 103(a) against the pending claims. Specifically:

> U.S. Application No. 10/085,682 and USP 6,738,333 were, at the time the invention of U.S. Application No. 10/085,682 was made, owned by the same corporate entity, which was formerly known as Dataplay but now doing business as DPHI Acquisitions, Inc.

Setting aside the commonly-owned patents for the assignee DPHI (for which Applicants commend the Examiner's searching ability to identify the only relevant [but not prior] art), yes, it is old to simply have spiral tracks on optical disks. But note that spiral tracks (grooves/lands) are used in a writeable portion. The bumps define a ROM portion. That is completely unheard of in the optical disk arts: that a single substrate is stamped with both bumps and a spiral track to define ROM and RAM portions that a covered with a single phase-change layer.

The reason such a disk is not in the prior art is as follows: ROM disks stamped with bumps (such as DVDs) use a reflective layer such as aluminum to reflect the laser light back to the detector. On the other hand, RAM disks having a spiral track must absorb laser light. Thus, prior art disks having both a stamped ROM portion and a spiral track RAM portion were clumsy affairs: the ROM portion would be formed and then

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masked off so that the RAM portion could be formed. These separate manufacturing steps were required because of the competing qualities desired for the ROM vs. RAM portions (reflectivity vs. absorptivity).

In sharp contrast, such masking and separate manufacture steps are completely absent in applicants' claimed disk: the stamped substrate with both bumps and spiral track is covered with a single phase-change layer. This is a remarkable achievement in the optical disk arts because, for the first time, a ROM/RAM disk may be made using a single coating step for the information layer.

Thus, for the reasons set forth above, claim 1 and its dependent claims are patentable over the Obata reference.

The rejection over Pan in view of Uno, Zaharris, and Tanaka,

As discussed above, Zaharris is not prior art to this application under 35 USC 103(a). The Pan reference (USP 4,774,170) is cumulative to the Obata discussion above (see, e.g., Pan's Figure 2 showing a planar second surface disk). Uno (USP 6,503,690) adds nothing further as shown, for example, by Uno's Figure 1. Tanaka adds nothing further in this regard.

The rejection over Obata/Zaharris/Pan

This rejection fails for the reasons discussed above.

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The rejection over Obata/Zaharris and Igarashi (USP 5,400,316)

As shown, for example, by Igarashi's Figures 1 and 2, Igarashi does nothing to cure the infirmities of the Obata reference.

CONCLUSION

For the reasons set forth above, the pending claims are in condition for allowance.

If the Examiner has any questions regarding the application, the Examiner is invited to call the undersigned Attorney at (949) 752-7040.

Certification of Facsimile Transmission
I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office at 571 273 8300 on the date shown below.

Jonathan W. Hallman — February 28 , 2007
Date of Signature

Respectfully submitted,

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